

Exhibit IND21

1 IN THE UNITED STATES DISTRICT COURT
2 CENTRAL DISTRICT OF CALIFORNIA
3

4 NEUROGRAFIX, a California)
corporation; WASHINGTON)
5 RESEARCH FOUNDATION, a)
not-for-profit Washington)
6 corporation,)
)

7 Plaintiffs,)
)

8 vs.) No. CV 10-1990 (MRP) (RZX)
)

9 SIEMENS MEDICAL SOLUTIONS)
USA, INC., a Delaware)
10 corporation and SIEMENS)
AKTIENGESSELLESCHAFT, a)
11 German corporation,)
)

12 Defendants.)
)

13 AND RELATED CROSS ACTION)
14)

15

16

17 VIDEOTAPED DEPOSITION OF JAY S. TSURUDA, M.D.

18 Los Angeles, California

19 Friday, February 25, 2011

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24 Reported by:

25 SUSAN A. SULLIVAN, CSR #3522, RPR, CRR

JOB NO. 36373

1 February 25, 2011

2 9:43 a.m.

3

4 VIDEOTAPED DEPOSITION OF JAY S. TSURUDA,
5 M.D., taken by Defendants, at the offices
6 of Tantalo & Adler, 1901 Avenue of the
7 Stars, Los Angeles, California, before
8 Susan A. Sullivan, CSR, RPR, CRR, State of
9 California.

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1 A P P E A R A N C E S:

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3 RUSS AUGUST & KABAT

4 Attorneys for the Plaintiffs

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7 BY: MARC A. FENSTER, ESQ.

8

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13 BY: GREGG F. LoCASCIO, ESQ.

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15

16 TANTALO & ADLER

17 Attorneys for the Witness

18 9300 Wilshire Boulevard

19 Beverly Hills, California 90212

20 BY: JOEL M. TANTALO, ESQ.

21

22 Videographer:

23 BRENT JORDAN

24

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1 THE VIDEOGRAPHER: This is the start of DVD
2 labeled Number 1 of the videotaped deposition of
3 Dr. Jay S. Tsuruda in the matter of NeuroGrafix, et
4 al., vs. Siemens Medical Solutions, U.S.A., Inc., et
5 al., filed in the United States District Court,
6 Central District of California, Case No. CV 10-1990
7 (MRP).

8 This deposition is being held at 1901
9 Avenue of the Stars, Los Angeles, California, on
10 February 25th, 2011, at approximately 9:43 a.m.

11 My name is Brent Jordan from TSG Reporting,
12 Inc. and I'm the legal video specialist. The court
13 reporter is Sue Sullivan in association with TSG.

14 Will counsel present please identify
15 yourselves for the record.

16 MR. LoCASCIO: Gregg LoCascio and Sean
17 McEldowney from Kirkland & Ellis, LLP on behalf of
18 the defendants.

19 MR. FENSTER: Mark Fenster with Russ, August &
20 Kabat on behalf of the plaintiffs.

21 MR. TANTALO: Joe Tantalo from Tantalo & Adler,
22 LLP, for the witness, Jay Tsuruda.

23 THE VIDEOGRAPHER: Will the court reporter
24 please swear the witness.

25 ///

1 JAY S. TSURUDA, M.D.,
2 called as a witness, having been duly sworn by
3 the court reporter, was examined and testified
4 as follows:

5

6 EXAMINATION

7 BY MR. LoCASCIO:

8 Q Good morning, Dr. Tsuruda.

9 A Good morning.

10 Q How are you?

11 A Very good.

12 Q I'm going to hand you what I've marked as
13 Defendants' Exhibit 20 which is a copy of a subpoena
14 for deposition and documents in this case.

15 (Defendants' Exhibit 20, a document, marked
16 for identification, as of this date.)

17 Q BY MR. LoCASCIO: And if you need time,
18 feel free to take it but I don't intend to ask you a
19 lot of detailed questions about this, but the
20 question is are you here today pursuant to a
21 subpoena issued to you by Siemens.

22 A Yes.

23 Q Are you also here actually in response to a
24 subpoena issued by the plaintiffs, NeuroGrafix?

25 A Yes.

1 believe his Ph.D. is in anthropology. His M.D. and
2 specialization is neurosurgery. He is not a
3 radiologist.

4 Q It sounds like at least you know from Mr.
5 Richards, you think for Mr. Howe, Dr. Howe, that
6 they are Ph.D. scientists but not medical doctors or
7 M.D.s, correct?

8 A I can't specifically state that for
9 Dr. Howe. I can certainly say that at that time for
10 Dr. Richards.

11 Q But you mentioned Dr. Richards focused his
12 Ph.D. or his research in imaging. Do you believe
13 somebody like Dr. Richards has expertise in this
14 field that we looked at a minute ago?

15 A Yes.

16 Q Do you believe that only an M.D. would be
17 the type of person that would have experience in the
18 field of this patent?

19 A No.

20 Q In fact, as you understand it, in the field
21 people like Moseley, Bassar and others, there are a
22 fair number of Ph.D. research scientists that are
23 experts in this area, fair?

24 A Yes.

25 Q Do you have a view, sir, as to whether --

1 withdraw.

2 Is there a portion or some aspect of the
3 '360 patent, Exhibit 11, that you think of as the
4 part that you contributed at a high level,
5 recognizing there's probably some team aspects to
6 this?

7 A I primarily contributed images for the
8 patent.

9 Q There are, if you start on Page 1 there's a
10 picture on the front page that is also another
11 numbered figure but then the figures go on
12 throughout this patent. Are you able to or do you
13 have a recollection as to whether you contributed
14 all of the images or certain versions of these
15 images? And you can take your time if you need to
16 look through it.

17 A Certain versions of the images I
18 contributed.

19 Q Can you direct me to which ones you
20 remember?

21 A The first page.

22 Q Okay.

23 A I'm not sure how you are labeling these
24 but --

25 Q Go ahead, sir.

1 A It looks like Page 2 out of 52.

2 Q On the first page of Exhibit 11 is what you
3 are referring to and actually that looks like it is
4 also figure numbered 20. If you turn to Sheet 14 of
5 the patent, that's the same image in your view?

6 A Yes, it is.

7 Q Okay. So Figure 20 you believe you
8 contributed. Are there others?

9 A Figure 22 which is on Page 17.

10 Q Okay.

11 MR. TANTALO: you may want to go -- we skipped
12 past a bunch as well.

13 THE WITNESS: We can go through each of these
14 pages.

15 Q BY MR. LoCASCIO: That would be great.

16 A I believe figures, all the figures on Page
17 3 and 4 --

18 MR. TANTALO: When you say three and four, at
19 the top 3 of 52 and 4 of 52?

20 THE WITNESS: Yes. Page 3 of 52, 4 of 52, I
21 did not contribute to those.

22 Q BY MR. LoCASCIO: And those are the images
23 labeled, it looks like Figure 12, 13A and B, Figure
24 3, Figure 4, Figure 5A and B and 2A and B, correct?

25 A Correct.

1 Q Okay. Do you know who did?

2 A I believe this -- those sets are figures
3 came from the laboratory in London, England.

4 Q Okay. And that would be the work as you
5 understood it of Drs. Filler and Howe?

6 A Correct.

7 Q Okay. There are then some flow charts and
8 diagrams on the next figure, I think appears on
9 Sheet 9 of the patent. It is Figure 14A, B, C and
10 D.

11 MR. TANTALO: It might help if we refer to --
12 it looks like Dr. Tsuruda is referring to the 52s so
13 we're looking at Page 11 of 52.

14 THE WITNESS: I see. We can do it that way,
15 that's fine.

16 MR. TANTALO: It would be helpful.

17 Q BY MR. LoCASCIO: Okay.

18 A Pages 11 of 52 and 12 of 52, those also
19 were provided I believe Dr. Filler and Dr. Howe.

20 Q Okay. And then the next page, it looks
21 like it is Figure 16 and 17, sir, of the '360
22 patent.

23 MR. FENSTER: Are your skipping 12 of 52?

24 MR. LoCASCIO: I'm not sure.

25 Q Did you already tell me about Figure 15A

1 actually a very complex between the viewer and the
2 radiologist who is trained in identifying the lesion
3 on the scan and there are a lot of factors involved.

4 Q BY MR. LoCASCIO: Typically as a
5 radiologist would you make that determination
6 visually or mathematically and qualitatively? Or,
7 pardon me, typically would you make that assessment
8 visually; i.e., qualitatively or mathematically;
9 i.e., quantitatively?

10 MR. FENSTER: Objection; vague.

11 THE WITNESS: Almost always we're going to do
12 this on a clinical basis on vision inspection.
13 There are some specific protocols that we do require
14 following let's say contrast enhancement over time
15 or a lesion, what it looks like with different pulse
16 sequences for tissue characterization, but 99.9
17 percent of my practice is just using my visual
18 skills.

19 Q BY MR. LoCASCIO: And this 1.1 conspicuity,
20 as you understand it, would be the difference
21 between the nerve intensity and the background
22 intensity in essence being 10 percent greater than
23 the standard deviation of the noise?

24 A Correct.

25 MR. FENSTER: Objection; misstates prior

1 testimony, vague.

2 Q BY MR. LoCASCIO: Is there a -- I'm an
3 engineer so I'm kind of a formula guy more than an
4 X-ray or MR guy. Withdraw.

5 Are there variables, so S or B or something
6 like that, that are used to represent in your field
7 things like the intensity of a voxel, is there a
8 standard variable letter used for that?

9 A No, not that I know of. In MRI we are only
10 looking at intensity of that voxel on that image,
11 there's no absolute scale that it is pegged to.
12 That's in contradistinction to CET where you have
13 formal hounsfield units and those are actually, we
14 can read those and we know what we're talking about
15 because it is very specific for tissue. MR, there
16 isn't any specific number that you ascribe to a
17 specific sequence because there's so many variables
18 such as differences in pulse sequence and so forth
19 in different scanners.

20 Q Does the region selected to measure that
21 intensity make a difference if you are trying to do
22 some quantitative conspicuity measure?

23 A Yes. What you want to do when you do a
24 measurement is to make sure you include the volume
25 or include the structure that you want to look at,

1 make sure you get a good, clean measurement that is
2 not very noisy, that comes into the standard
3 deviation of noise, and then look at the contrasting
4 structure and do a very similar measurement, and you
5 may have to do repeated measurements just to get
6 repeated analysis of that structure.

7 Q Is there a variable or a notation for
8 standard deviation of noise, Greek letters or
9 something like that?

10 A It will actually in the MR, it will just be
11 a numeric number because it is, the intensity is a
12 number, a relative scale number, and the noise would
13 be a fraction of that number but there's no unit
14 involved with that.

15 Q Okay. And the, as you understand it, the
16 measure in a qualitative way of conspicuity with
17 respect to the '360 patent is intensity of the voxel
18 in the nerve minus the intensity of a voxel in the
19 background divided by the standard deviation of the
20 noise?

21 A That would be --

22 MR. FENSTER: Excuse me.

23 Objection; vague, misstates, calls for a
24 legal conclusion, leading.

25 Q BY MR. LoCASCIO: Go ahead, sir.

1 THE WITNESS: Yes. I'm reading the line that
2 says, "This average image intensity S can be
3 represented by the following expression."

4 Q BY MR. FENSTER: Okay. So what do you
5 understand that to mean?

6 A That means that a signal in a voxel can be
7 calculated by this particular equation.

8 Q Okay. And that is defining the general --
9 so this patent at the bottom of Column 14 is
10 referring to the average signal, average image
11 intensity as the variable S, correct?

12 A Correct.

13 Q And at Column 22 where it defines the
14 contrast as the ratio of S_n , do you understand that
15 to be the image intensity S_n , meaning for the nerve? :12

16 MR. LoCASCIO: Objection to form,
17 mischaracterizes the document. S_n , Marc, is done by
18 a different formula. If you are going to blatantly
19 misrepresent it and ignore Formula 3 called S_n , I'm
20 not going to sit here and let you do it.

21 THE WITNESS: Image Number, I mean Equation
22 Number 14, I'm not an MR physicist. That's a
23 general equation of a theoretical signal that one
24 can get in a voxel on an imaging study, okay? The
25 ratio that you are -- that you are alluding to on

1 Column Number 22, Paragraph 40, are measured signal
2 that one obtains after the imaging study is
3 performed and then when calculated the ratio of, in
4 this example, of 2.43. So Image -- so 14, Column
5 14, Equation 1, is a hypothetical equation.

6 Q BY MR. FENSTER: Okay.

7 A It just tells you where signal comes from
8 in a scan.

9 Q Okay.

10 A Column 22/40 were actual experimental
11 results, I believe, and those are completely
12 different.

13 Q Okay. And the experimental results that
14 were shown of 2.43 for the ratio, how was that
15 actually calculated?

16 A I will have to look at the reference or the
17 actual data from where this came from. It doesn't
18 say, my initial glance, it doesn't state where this
19 data was obtained. It didn't have a footnote or
20 reference. Was it experimental results by Dr.
21 Filler, I don't know. But what occurs is that you
22 display the image and do a region of interest and
23 measure the intensity in that region of interest.

24 Q How do you do that? How do you measure the
25 intensity in the region of interest?

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1 A Well, first what you have to do is put the
2 image on a monitor which is commonly that's how the
3 images are displayed.

4 Q Okay.

5 A Identify the structure and then freehand do
6 a range, a region of interest in which you draw a
7 curser around the structure or to include most of
8 the structure and then it will automatically read
9 out two parameters or three parameters, typically;
10 the size of the circle in cubic millimeters or
11 pixels, the intensity for the signal, and the
12 standard deviation of that.

13 Q Okay.

14 A So you can do that and then you can go to
15 the muscle, do the same kind of region of interest
16 and then calculate that, then that's how you get the
17 ratio. What heated was the signal differences, if
18 you will, the ratio of the signal between the two
19 structures.

20 Typically, as I mentioned, I always put a
21 noise characterization in there because sometimes
22 when you have a lot of noise in the image the data
23 is not as reliable, instead of going to just
24 straight signal intensity.

25 Q Okay.

1 A But that's a different, those two equations
2 and those two things I think are completely
3 different.

4 Q What do you mean those two things?

5 A Well, like I said, the equation on Column
6 14, Number 1, is a hypothetical equation whereas in
7 the latter there were actual results.

8 Q I understand.

9 So as I understand it, Sn, referring to
10 Column 22, Sn was calculated by using a software,
11 selecting a structure, selecting a region of
12 interest, and software generates the three things
13 you identified; size, intensity and standard
14 deviation?

15 MR. LoCASCIO: Objection; form.

16 THE WITNESS: Let me explain. I did not do the
17 experiment, I did not write this, so I'm assuming
18 that that -- that that's how it was done.

19 Q BY MR. FENSTER: Okay.

20 A One has to go back to the author and
21 validate what they did in order to do this. This is
22 how I would personally do it but I can't vouch for
23 what was actually done here.

24 Q Okay. So your understanding of how to, if
25 you read this, and I ask for your understanding, how

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1 MR. LoCASCIO: I have no more questions.

2 MR. TANTALO: Marc, I understood you had
3 probably a few topics you couldn't get to but do you
4 want to do any recross on what Mr. LoCascio just
5 asked Dr. Tsuruda about before we leave?

6 MR. FENSTER: No, we're going to reserve our
7 rights to move for more deposition time, but we're
8 done for today.

9 THE VIDEOGRAPHER: This concludes today's
10 deposition. Number of DVDs used were five. Off
11 video at 7:02 p.m.

12 ///

13 ///

14 ///

15

JAY S. TSURUDA, M.D.

16

17 Subscribed and sworn to

18 Before me this day

19 of 20 .

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